

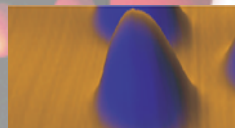
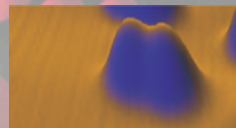
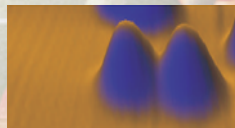
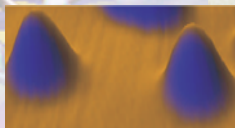
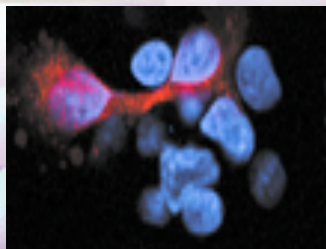


**Molecular FOUNDRY**  
A NANOSTRUCTURES USER LABORATORY

# THE MOLECULAR FOUNDRY

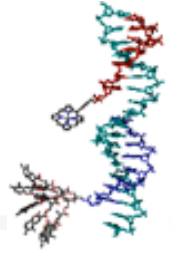
## INTEGRATION OF EH&S INTO SCIENCE AT THE MOLECULAR FOUNDRY

RICK KELLY  
FACILITY AND EH&S MANAGER  
MAY 26, 2006



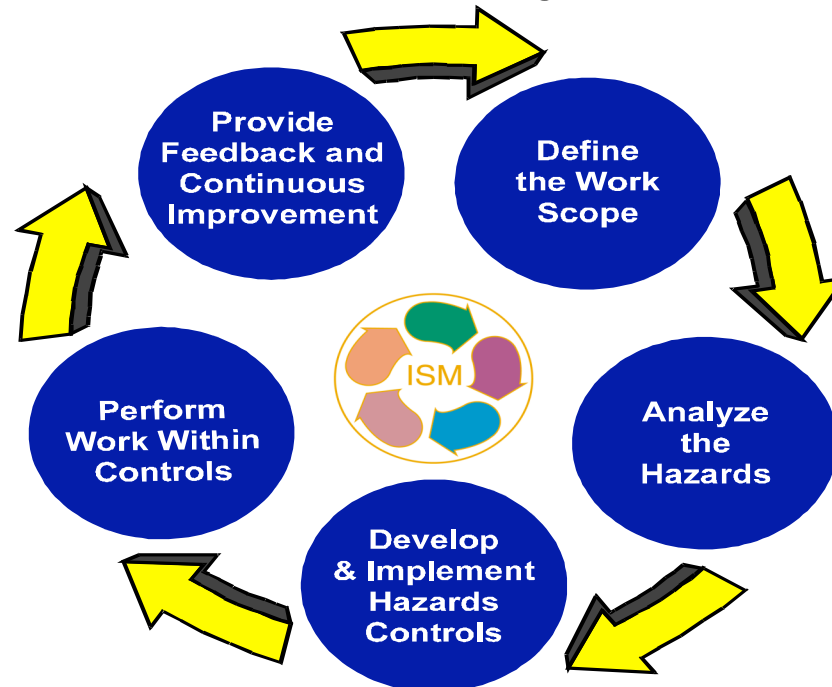
**Office of  
Science**  
U.S. DEPARTMENT OF ENERGY

# EH&S At The Molecular Foundry



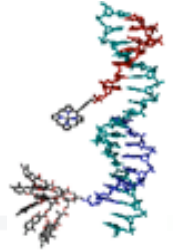
- Integrated Safety Management principles are used

Line management authority  
and accountability for EH&S





# Core EH&S Management Concepts

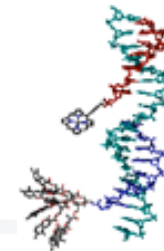


- **EH&S is integrated into the user program at each step in the process**
  - Planning
  - Performance
  - Completion of work
- **Line management is responsible for EH&S performance**
- **Guests at the Foundry are treated like employees and are held to the same standards of accountability**





# Proposal EH&S Review

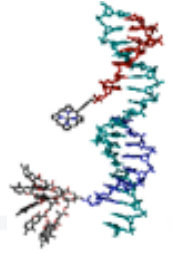


- **Proposals are reviewed for EH&S aspects using the *EH&S Review Spreadsheets* and the *Job Hazards Questionnaire***
  - Materials
  - Equipment
  - Samples brought with investigator
  - Work procedures and processes
  - Waste generation





# Potential Outcomes of EH&S Review



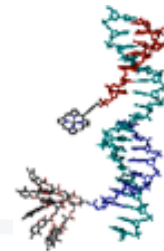
- **Work is within the EH&S envelope and can be performed with existing safety controls**
- **Work is within the EH&S envelope but will require new control systems**
  - New engineered controls (e.g. gas cabinets for toxic gas)
  - New administrative control (e.g. formal authorization, permit or new training class)
- **Work exceeds the EH&S envelope for the Molecular Foundry**
  - Examples: Work with some radioactive materials, work at BSL 3, classified work, large quantities of toxic gases







# EH&S Training

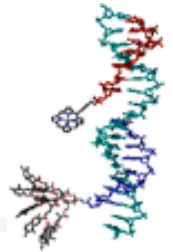


- **Guests working at the Foundry are held to (mostly) the same training requirements as employees.**
- **Training requirements are identified during the EH&S review process**
- **Most (common) training classes will be available on-line and can be taken prior to arriving at the Foundry, such as:**
  - Chemical safety
  - Pressure safety
  - Waste management





# Formal Authorization

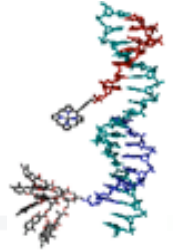


- **Need for formal authorization identified during the EH&S review process:**
  - Activity Hazard Document: Work with new toxic gases, new class 3b or 4 lasers, very toxic or reactive chemicals
  - Biological Use Authorization:
    - Risk group 2 or higher pathogens; human tissue or cell lines; recombinant DNA work
  - Human/Animal Regulatory Committee: Human or primate materials
  - X-ray authorization: New work with x-ray generating equipment
  - Government permits: (e.g. permit to transport soil or plant material between states)





# Authorization of Work



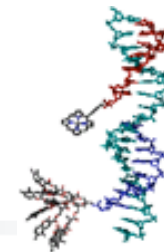
- Each guest will be assigned to a staff or lead scientist
- The assigned scientist will help the guest complete required training and formal authorization documents
- The assigned scientist is responsible for assuring that the guest is able to function safely within the lab and in accordance with all LBNL EH&S requirements
- The assigned scientist will authorize all work in the lab when all EH&S requirements are met







# EH&S Support and Oversight

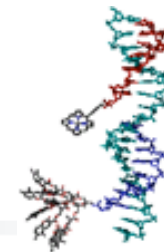


- **A range of resources are available to the guest to help in fulfilling their EH&S responsibilities**
  - Foundry Staff scientist
  - Foundry EH&S Manager
  - Foundry EH&S Technician
  - EH&S Division
    - Technical specialists
    - Training





# EH&S At The Molecular Foundry



- Questions?

